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ABSTRACT

The Reference and Interlibrary Loan Service (RAILS) is a cooperative funded service located at the Ohio State University and serves the other eleven state-assisted universities in Ohio. During its first year (July 1, 1969 through June 30, 1970) this service received 7126 requests of which only 1241 were unfilled, 4197 were requests for photocopies and 1685 for loans. Nearly half (46.4%) of the unfilled requests resulted because the title was not owned. As an added service RAILS members were automatically provided with other locations for unfilled requests whenever possible. Thus, two thirds of the unfilled requests were given location information. Each request cost approximately $2.44 to fill, exclusive of photocopy charges and required 0.514 man hours. The mean cycle time for processing was 5.45 working days. The statistical information is displayed in eleven tables. (Author/NH)

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A Cooperative Interlibrary Loan Service for the State-Assisted University Libraries in Ohio*

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* Expanded and revised version of a paper presented at the semi-annual meeting of the Dayton-Miami Valley Consortium - Library Division meeting in Dayton on Wednesday, November 19, 1969.

Abstract

This paper describes the cooperatively funded reference and interlibrary loan service located at The Ohio State University and serving the other eleven state-assisted universities in Ohio. During its first year, FY 69-70, this service received 7126 requests, filled six out of seven, and provided other locations for 2 of 3 unfilled. Each request cost approximately $2.44 to fill, exclusive of photocopy charges and required .514 man hours. Mean cycle time for processing was 5.45 working days.

At their semi-annual meeting in April, 1968, the directorsof the libraries at the twelve state-assisted universities in Ohio (Inter-University Library Council) discussed various aspects of interlibrary loan activities. Three issues seemed to dominate this discussion: 1) that eleven of these universities were borrowing heavily from one - The Ohio State University; 2) that undergraduates were generally excluded from interlibrary loan services; 3) that interlibrary loaning was expensive and time-consuming.

The ALA Interlibrary Loan Code is something less than liberally worded; nor is the ALA model code for state, regional and local interlibrary loan agreements much better, and holding the short end of the stick, as usual, are the undergraduates. For example, under the national code an undergraduate would be denied a service at his college library which he could get through his local public library, if he convinced them of serious purpose - a formidable task indeed but possible, given a sympathetic public librarian. To paraphrase the code, an undergraduate apparently does no research worthy of the name, and in any event does not contribute to the "furtherance of knowledge" which "is in the general interest".

As a result of this discussion by the IULC The Ohio State University prepared a proposal for a cooperatively funded interlibrary loan and reference service dedicated to serving the eleven member institutions - all of them state-assisted university libraries in Ohio. This proposal was presented to the IULC at its October, 1968, meeting and approved. The service, RAILS (Reference and Interlibrary Loan Service), began operations July 1, 1969. This paper is a report on the RAILS experiment based on data through June 30, 1970, i.e. the first twelve months of operation.

The primary mission of RAILS is to increase access to the resources of The Ohio State University Libraries and to do so in a way which simplifies the user's task as much as possible. Members of the Ohio College Library Center which includes the elven RAILS members, have been extended direct borrowing privileges for their faculty by OSU, patterned after an agreement among members of the Dayton-Miami Consortium. But in addition to these loan privileges, RAILS also offers professional reference assistance to all students and faculty from its member institutions who call or visit the Ohio State University Libraries.

The first problem we encountered in setting up RAILS was the usual lacunae in the literature of librarianship.[1] Nowhere were we able to discover benchmark data on turnaround time, unit costs, predictors of level of acitivity, etc. for interlibrary loans. This being the case we started out by making some guesses as to budget and staff structure. These guesses and the reality of our experience are compared in Table 1.

Table 1
Finances IULC-RAILS FY69-70

Salaries and wages	$13,976.00	$13,771.20	
Fringe benefits	-0-	1,982.33	
Equipment	400.00	166.00	
Communications (Postage, Telephone, Teletype)	400.00	1,290.00	
Travel	-0-	200.00	
Photocopies (1500/member @ $.03/copy)	450.00	825.00	(1500/membe @ $.05/cop
	$15,226.00	$18,234.53	

[1] An exception to this generalization is Vern M. Pings. Interlibrary Loans: a review of Library Literature, 1876-1965. Detroit: Wayne State University, School of Medicine, Library, Biomedical Information Service Center (1966). The author notes: "No sound quantitative data exists either on the flow of documents or on the cost of supporting such services". (p. 17)

Not much needs to be said about this table except to point out the obvious budget deficit which can be attributed primarily to three sources: omission of fringe benefits in the original budget estimates; an unrealized expectation that photocopy charges would be made at cost (3.5¢/page); and a large underestimate of communication costs (postage, telephone, teletype).

We have analyzed the data from our first year to develop some measures of cost and performance for administrative purposes. These data show an annual level of activity of 7126 transactions. If we divide the total transactions for the year into the total expenditures shown in Table 1, less photocopy charges, we have an estimated cost per transaction of $2.44, exclusive of copying costs. This translates into .514 man hours per transaction. It must be pointed out that this cost is unidirectional, i.e. for "loans to" only because RAILS does no borrowing from its members. The unit cost and time data, although useful for planning the future of RAILS, are less insightful than they might be because of the absence of comparable data in the literature and because we did not amortize collection or equipment costs (most of the necessary equipment was secured at no cost from surplus inventory on campus), nor did we compute per square foot costs for physical plan maintenance.

Based on the first year (1 July 1969 - 30 June 1970) of operation, we have discovered some interesting facts about our eleven users. Using rank-order correlations (Table 2)[2] we have found that the volume of usage of RAILS by its members does not correlate with size of collection (r=-.236). The correlation coefficients with enrollment

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[2]Hubert M. Blalock. Social Statistics New York: McGraw-Hill (1960) p.317

Table 2

Rank Order Correlation by size of enrollment, size of collection, # transactions with IULC-RAILS, % Unfilled requests, # subscriptions.

Name	1 Enrollment[a.]	2 # volumes[a.]	3 # RAILS Transactions	4 % RAILS Unfilled	5 # periodicals[a.]
Akron	4 (13616)	7 (316195)	6 (478)	4 (20.3)	5 (2720)
Bowling Green	5 (13380)	5 (538267)	4 (857)	9 (12.1)	6 (2612)
Central State	11 (2684)	11 (91078)	11 (89)	1 (28.1)	11 (767)
Cincinnati	1 (27264)	1 (1036538)	10 (199)	10 (11.1)	3 (5319)
Cleveland State	9 (9697)	9 (116340)	5 (713)	2 (23.6)	7 (2523)
Kent State	2 (24104)	4 (540117)	3 (950)	5 (18.1)	2 (5426)
Miami	8 (11000est)	3 (600000est)	7 (394)	7 (15.2)	8 (2300)
Ohio Univ.	3 (19142)	6 (507180)	1 (1576)	3 (22.7)	1 (5817)
Toledo	7 (12698)	2 (607456)	9 (254)	5 (18.1)	4 (3284)
Wright State	10 (5704)	10 (113063)	8 (352)	8 (14.5)	10 (1700)
Youngstown	6 (13219)	8 (174210)	2 (1264)	11 (11.0)	9 (1812)

$$r = 1 - \frac{6\,D^2}{N\,(N^2-1)}$$

$r_{1,3} = .400$
$r_{2,3} = -.236$ $r_{3,4} = -.105$ $r_{3,5} = .373$

a: Directory of Ohio Libraries with statistics for 1968 Columbus, Ohio: the State Library of Ohio (1969) p. 73-75.

(r=.400) and with number of subscriptions (r=373) are stronger than with size of collection but are still not statistically significant. It is also interesting to note that the correlation between volume of usage and per cent of request unfilled (r=-.105) is only modestly negative indicating that users are not noticeably deterred by a "no" from the system. Given these correlation coefficients we suspect that the dominant factor influencing usage of RAILS is the service orientation of the library director and staff at each member institution. If we could somehow measure this orientation,[3] we could probably confirm this suspicion. Furthermore, geographic proximity of a RAILS member to other significant library collections may also influence volume of usage of RAILS. All other differences aside, contrast the location of Ohio University in Athens, Ohio with that of Cleveland State University for example.

An analysis of the kinds of requests received by RAILS (Table 3) indicates that approximately 71.3% of the requests filled are for photocopies, virtually all of which are of journals; 28.7 are for books. This contrasts with data from a survey done at Case Western Reserve which indicated that among academic libraries in Ohio "loaned items" (as contrasted with photoduplication requests) accounted for 81.26% of the ILL activity.[4] We have also found that about one request in six cannot be filled for one or more reasons: the item is not owned, or is in circulation, or is on reserve, or occasionally, is inexplicably lost. The average photoduplication (journal) request is for 8.2 pages and an average book request is for 1 volume.

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[3]See for example: Fred L. Adair. The Development of a Scale to Measure the Service Orientation of Librarians: preliminary investigations. (unpublished Ph D. dissertation) University of North Carolina, 1968

[4]A.J. Goldwyn and Edward Verhosek A Study of Extra Institutional Use of Libraries by Ohio Academic Personnel Cleveland: Center for Documentation and Communications Research, School of Library Science, Case Western Reserve University (1969) p.71

Table 3

RAILS Statistics by institution
for FY 69-70

	No. pages photocopy	No. requests photocopy	No. vols. lent	No. unfilled requests	Total requests
Akron	1706	132	134	97	478
Bowling Green	4705	179	186	104	857
Central State	138	16	45	25	89
Cincinnati	1265	133	45	22	199
Cleveland State	3187	380	160	168	713
Kent State	4884	552	221	172	950
Miami	1641	227	106	60	394
Ohio University	5805	802	440	357	1576
Toledo	837	97	99	46	254
Wright State	1442	186	115	51	352
Youngstown State	8763	990	134	139	1264
TOTAL	34373	4197	1685	1241	7126

In order to determine more precisely the effect different factors have on the services of RAILS, a 10% random sample of the transaction slips was selected for detailed analysis. Table 4 shows the breakdown of the sample by type (Loan, Photoduplication) and by status (Filled, Unfilled). When the totals shown are compared with those in Table 3, it is apparent that the percent unfilled in the sample (17.7) compares realistically with the percent unfilled in the population (17.4) and that the breakdown by type is also comparable (71.3% photoduplication in the population and 66.5% in the sample).

Table 4

Number of requests by type and status

	%			
	F	UF		
P D	87.9	12.1	100.0 (N=471)	66.5%
Loan	71.3	28.7	100.0 (N=237)	33.5%
	(N=583)	(N=125)	(N=708)	
	82.3%	17.7%		

Analysis of the sample by quarter (Table 5) confirms what the monthly statistical reports from RAILS during the year had indicated, i.e., that neither the mix by type nor the mix by status varied widely during the year. We always had 29-36% of our requests for loans, and we always had 14-19% of our requests unfilled. However, an analysis of the mean cycle times for a request by quarter (Table 6) shows that as volume increased so did the mean cycle time. The exception to this is the summer quarter, 1969 which was the start up period for the system, during which search sequences, duplicating procedures, and routines were being established. The apparent relationship between mean cycle time and volume of activity may upon further study reveal some interesting data on optimal workload per employee.

Table 5

Distribution of transactions by quarter and by type and status

		% Loan	P.D.	% F	UF	
1969	July-Sept.	29.1	70.9	86.0	14.0	(N=86)
	Oct.-Dec.	36.0	64.0	84.0	16.0	(N=175)
1970	Jan.-March	35.1	64.9	80.5	19.5	(N=251)
	April-June	31.1	68.9	81.6	18.4	(N=196)
		(N=237)	(N=471)	(N=583)	(N=125)	
		33.5%	66.5%	82.3%	17.7%	

Table 6

Analysis of cycle times by quarter

	%	f	Su (f)	A (f)	W (f)	Sp (f)
1 day	28.7	203	(23)	(74)	(46)	(60)
2 days	18.6	132	(16)	(37)	(51)	(28)
3 days	17.4	123	(15)	(24)	(49)	(35)
4 days	8.1	57	(2)	(11)	(27)	(17)
5 days	7.3	52	(12)	(6)	(18)	(16)
6 days	3.4	24	(6)	(1)	(10)	(7)
7 days	1.3	9	(2)	(1)	(2)	(4)
8 days	1.3	9	(3)	(2)	(3)	(1)
9 days	.6	4	0.0(0)	(1)	(2)	(1)
10-14 days	5.2	37	(4)	(10)	(14)	(9)
15-19 days	2.8	20	(2)	(5)	(6)	(7)
20-24 days	.8	6	(1)	(1)	(4)	0.0(0)
25-29 days	1.3	9	0.0(0)	0.0(0)	(7)	(2)
30-39 days	1.8	13	0.0(0)	(1)	(9)	(3)
40+	1.4	10	0.0(0)	(1)	(3)	(6)
	100.0					
		(N=708)	(N=86)	(N=175)	(N=251)	(N=196)
Mean:	———	5.45	4.06	3.77	6.59	6.09
Median		3.00	3.00	2.00	3.00	2.00

The sample was analyzed to determine the reasons for the unfilled requests. It had been feared by some that the added demands on the collections of Ohio State by RAILS might work a disservice to the university's primary clientele. However, the data in Table 7 indicates that the same materials were rarely in demand simultaneously by both groups of users. Nearly half of the unfilled requests (46.4%) were so because the title requested was not owned, and if the three most common causes for unfilled requests are combined they account for nearly 9 cases out of ten (87.2%). As an added service to RAILS members we automatically provide other locations for unfilled requests whenever possible unless instructions to the contrary are received. Thus, as noted on Table 7, in two thirds of the unfilled requests users were given location information.

Table 7

Analysis of reasons for unfilled requests

	f	%
Not owned	58	46.4
Item missing	27	21.6
Issue not received	24	19.2
In use	11	8.8
Non-circulating	4	3.2
Other	1	0.8
	125	100.0

Other locations provided in 83 of 125 cases or 66.4%.

Tables 8, 9, and 10 analyze the sample by the medium of communication used, by language of publication, and by type or format of publication. In spite of our urgings to be more flexible RAILS members seem to prefer the standard ALA interlibrary loan form as the medium of communication with the system, although the volume by teletype can be expected to increase as more members get this equipment. The volume by telephone does not yet justify an outward WATS line although this too may change. The analysis by language reflects an overwhelming majority (85.9%) of the requests for English language materials. Although Ohio State is at or near the level of primary excellence in Slavic materials, this collection does not seem to be in great demand among RAILS members. Analysis by type of publication (Table 10) reflects the same pattern shown in Table 4, i.e., that photoduplication (usually for journals) is a large majority of the business of RAILS. Given that Ohio State has long participated in both NUC and ULS, this majority may indicate that the serials holdings are better than the monograph collection.

Table 8

Analysis of transactions by communication medium

	%	% F	% UF	
ALA form	80.2	83.3	16.7	(N=568)
Teletype	13.0	77.2	22.8	(N=92)
Telephone	6.6	80.9	19.1	(N=47)
In-person	0.2	100.0	0.0	(N=1)
	100.0	(N=583)	(N=125)	(N=708)

Table 9

Analysis of transactions by language of publication

	%	% F	% UF	
English	85.9	83.4	16.6	(N=608)
Western European[a.]	11.7	79.5	20.5	(N=83)
Slavic & East European[b.]	2.4	58.8	41.2	(N=17)
Oriental	0.0	0.0	0.0	(N=0)
	100.0	(N=583)	(N=125)	(N=708)

a) non-english but roman alphabet
b) non-english and non-roman alphabet (excluding oriental)

Table 10

Analysis by type of publication

	%	F %	UF %	
serial[a]	65.7	88.6	11.4	(N=465)
monograph	26.1	72.4	27.6	(N=185)
thesis	2.5	66.7	33.3	(N=18)
govt. doc.	3.0	42.9	57.1	(N=21)
microform	2.3	93.8	6.2	(N=16)
other	0.4	33.3	66.7	(N=3)
	100.0	(N=)	(N=)	(N=708)

a) published at regular intervals (includes monographic series and conference proceedings).

As the last measure of effectiveness the sample was analyzed to determine the effect different variables had on the mean and median cycle times. As shown in Table 11 it takes longer to report a request unfilled than to fill it. The time required to copy makes the mean for photoduplication longer than that for a loan request. The mean for government documents is the highest mean of all, probably because of the complex forms of entry for these items. Western European languages show a smaller mean than other language groups, with Slavic the highest. The telephone is the quickest medium of communication followed by teletype, with the mail third. The teletype may well become more competitive as formats become more widely standardized.[5]

One of the major innovations RAILS has been able to effect is to reduce the level of detail and verification demanded of the user. Requests are handled as they come without imposing the burden of complex forms and precise data on users. In spite of this, or perhaps because of it, our in-house cycle time for a request is most frequently one work day (8 hours) and averages 5.45 working days. However, there does appear to be a direct relationship between degree of accuracy and/or detail in requester's citation and the length of the in-process time period. (Mean of 4.20 for requests which did not need verification compared with 11.05 for those which did). This would tend to encourage verification by requesters but the RAILS staff is reluctant to become too insistent on this point since their willingness not to require extensive verification is viewed as a user service and a significant improvement over the regular ILL procedures.

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[5]See for example: Bird, Warren and Cavanagh, G.S.T. Teletypewriter Exchange System for Interlibrary Communication. Durham, N.C.: Duke University Medical Center Library (1968).

Finally, location of the item requested has its effect. Most university libraries, Ohio State among them, have separate libraries for the sciences and certain other disciplines scattered around the campus. If an item was located outside the Main Library the cycle time doubled.

Conclusion

The future of RAILS is assured for at least a second year (1 July 1970 - 30 June 1971) with the present membership. In the meantime a few private colleges in Ohio have inquired about participation in the system, and we have begun to explore funding under Title III of LSCA by including other types of libraries as members. It is fair to say that RAILS is a success.

This new addition to a growing list of successful cooperative ventures between academic and/or special libraries in Ohio augers well for the future. Especially so in view of Wyman Parker's pessimistic observations when he wrote The Possibility of Extensive Academic Library Cooperation in Ohio for the Ohio College Association in 1963. At that time he wrote

> "Interlibrary loan is not the answer to this need of large resources by students who are now required to do individual work on the college campus. In fact interlibrary loan has broken down already." (p.7)

We are pleased to announce that interlibrary loan is alive and well, and living in Ohio.

Table 11

Comparison of Mean and Median Cycle Times
(in working days)

		(f)	Mean	Median
Total sample		708	5.45	3.00
Status:	Filled	583	4.21	3.00
	Unfilled	125	11.22	4.00
Type of request:	Loan	237	6.06	2.00
	P.D.	471	5.14	3.00
Type of publication:	Serial	465	5.14	3.00
	Monograph	185	5.99	2.00
	Thesis	18	3.19	2.00
	Govt. Doc.	21	11.67	5.00
	Microform	16	2.47	1.00
	Other	3	5.50	3.00
Language of publication:	English	608	5.63	3.00
	Western European	83	2.76	2.00
	Slavic, etc.	17	7.32	2.00
	Oriental	0	0.00	0.00
Medium of communication:	ALA form	568	5.67	3.00
	Teletype	92	4.24	3.00
	Telephone	47	2.51	1.00
	In person	1	1.00	----
Need for verification:	Yes	219	11.05	3.00
	No	579	4.20	3.00
Location (filled only):	Main Library	298	2.84	1.00
	Other	285	5.64	4.00